

# Sachin Karki

University of Mississippi Medical Center – School of Population Health, Department of Data Science

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## EDUCATION

**University of Mississippi Medical Center**, Jackson, Mississippi

PhD in Biostatistics and Data Science (Anticipated: 05/2028)

M.S in Biostatistics and Data Science (Anticipated: 05/2025)

**Texas Woman's University**, Denton, Texas

B.S in Informatics. Minor in Data Science (12/2021) *Honors: magna cum laude*

**Dallas College Brookhaven Campus**, Farmers Branch, Texas

Associate of Science in Liberal Arts and Sciences (05/2019)

## RESEARCH EXPERIENCE

**Student Researcher**, The University of Mississippi Medical Center (2023 to Present)

- Contributed research participation to National Clinical Cohort Collaborative (N3C) workshops, gaining in-depth training on leveraging large-scale health data to address COVID-19-related research questions.
- Conducted multiple independent research projects within the Data Science department
- Authored two manuscripts as first author, currently under review for presentation at prestigious academic conferences. (SPIE and MSACAD)
- Developed proficiency in different tools and techniques used for statistical analysis and research methodologies to analyze and address complex analytical questions.
- Contributed to comprehensive literature reviews and peer-reviewed academic articles for the principal investigator and associate professor.
- Attended departmental seminars featuring expert speakers, enhancing knowledge of real-world data, cutting-edge research methodologies and clinical applications.
- Collaborated with other student researchers to design and execute innovative research projects.

## PROFESSIONAL EXPERIENCE

**IT Associate and Coordinator**, Amazon Inc. (2022 to 2023)

- Assisted in executing high-end costly IT projects (code name: Project Insanity) involving complete overhaul and restructuring of sitewide computational assets. Played an instrumental role by independently completing 50 out of 200 tasks.
- Facilitated the allocation and maintenance of IT inventory, equipment throughout the Fulfillment Center.
- Resolved trouble tickets from SNOW (ServiceNow) system by fixing sitewide technical and computational issues.
- Assisted operation team, technicians and engineers in provisioning, diagnosing and trouble-shooting hardware and software like thin clients, PCs, scanners, radio, portable handheld terminals, TC devices, zebra printers, etc.
- Executed procurement and audit of assets in the IT department.
- Organized the storage of provisioned equipment as well as RMA and repair process of all devices under warranty.

**Social Media Analyst (Intern)**, DataReady DFW (2020)

- Designed infographics, dashboards and visuals using tools like Tableau, Canva etc. to create data-driven content.
- Conducted data entry, organized datasets, prepared data logs for marketing and advertising team.
- Assisted in boosting company's social media presence with digital marketing and content creation for online platforms.
- Addressed the need for weekly content by utilizing marketing inputs, panel meetings, feedbacks and progress reports.
- Researched emerging topics from social media trends to optimize campaign reach and impact.

## ICQA Associate, Amazon Inc. (2019 to 2020)

- Performed manual and routine checks of inventory to increase quality assurance by 50% using amazon proprietary technology and DBMS.
- Analyzed, processed and controlled inbound and outbound shipments, in-depth search of items to ensure 0% error rate.
- Aided with other associates in problem-solving, counting, amnesty, damage-land and loss prevention.
- Instructed and cross-trained old and new hire(s) about the system and their technical roles and responsibilities

## PUBLICATIONS (UNDER REVIEW)

1. **Karki, S. Zheng, Y.** Exploring and Comparing Machine Learning Models to Predict Benzodiazepine Prescriptions. Abstract Submitted. *The International Society for Optics and Photonics (SPIE)*.
2. **Karki, S. Zheng, Y.** Predicting Survival in Heart Failure with Classification Models. Abstract Submitted. *Mississippi Academy of Science (MSACAD)*.

## ACADEMIC PAPERS AND PROJECTS

1. *Predicting the Accuracy of Cancer with Adaptive Boosting*, Final Project [CSCI 4723].  
<https://github.com/sachin-karki/ML-with-Adaptive-Boosting>
2. *An Insight into Smartphone Obsession and Its Adverse Effects*, Undergraduate Capstone Project [CSCI 4923]  
<https://github.com/sachin-karki/smartphone-data-capstone-project>
3. *Academic Information Database (JAVA)*, Final Project [CSCI 2493]  
<https://github.com/sachin-karki/Academic-Information-Database>
4. *Nutrition Tracking Database, SQL (MySQL Workbench)*, Final Project [CSCI 3423]  
<https://github.com/sachin-karki/Nutrition-Tracking-Database>

## RESEARCH INTERESTS

- Machine Learning/Classification Algorithms • Predictive/Regression Modeling • Genomic Data Analysis
- Statistical Analysis • Bioinformatics/Biostatistical Data Analysis • Survival Data Modeling and Analysis
- Healthcare Research utilizing Electronic Health Records (EHR), Clinical and Medical Data

## RELEVANT COURSEWORKS

- Statistical Inference • Advanced Analytics • Statistical Inference in Genetics • Survival Analysis • Epidemiology
- Machine Learning and Data Science • Applied Computational Think • Information Retrieval
- Database Management • Data Structure and Algorithms • Advanced Data Modeling and Visualization
- Intro to Python Programming • Intro to R Programming • Intro to SAS Programming

## SKILLS

Programming Languages: Python (NumPy, Pandas), R, STATA, SAS, SQL

Data Visualization: Matplotlib, Tableau, MS Visio

Software/Tools: PyCharm, Jupyter Notebook, Visual Studio Code, Eclipse, Terminal, Git, SNOW

## HONORS AND AWARDS

**Dean's Scholarship**, The University of Mississippi Medical Center (2023)

**Magna Cum Laude, Honor Student**, Texas Woman's University (2021)

**Texas Public Education Grant (TPEG) Scholarship**, State of Texas (2021)

**Deans' and Chancellor's List Scholar**, Texas Woman's University (2020 – 2021)

**Urban Fellow Scholarship**, Jane Nelson Institute for Women's Leadership (JNIWL) (2020)

**International Student Merit Scholarship**, Texas Woman's University (2020 – 2022)

## LEADERSHIP ACTIVITIES

Student Body Representative for Data Science Department School of Population Health, UMMC.  
Student Ambassador, John D. Bower School of Population Health, University of Mississippi Center

## MEMBERSHIP AND ASSOCIATIONS

American Statistical Association (ASA), Member

## REFERENCES

1. Jeannette Simino, PhD.  
Interim Chair, Department of Data Science, SOPH - UMMC. Jackson, MS  
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2. Yufeng Zheng, PhD.  
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3. Seth Lirette, PhD.  
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4. Wondwosen Yimer, PhD.  
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5. Marcus Winn  
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